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ABSTRACT

A controlled experiment was conducted in 1980 with 117 first graders in two Southwestern schools near the Mexican border to determine the effects of direct instruction in teaching bilingual Hispanic children to read. Direct instruction has been defined as using modeling, reinforcement, prompting, discrimination learning, and correction/feedback for positive self concept development. Two rural schools with high percentages of Chicano students and with established bilingual education programs were selected for the study: however, School A served a poor neighborhood and was judged to be disadvantaged while School B served a more affluent area. In each school 58 first grade Hispanic bilingual children were randomly selected and randomly assigned to two experimental groups, conditions for which were identical except that one group used direct instruction and the other group used the regular bilingual method. Significant effects resulted between schools, between groups, and within a group/school interaction. Tentatively, direct instruction can significantly improve beginning bilingual children's achievement more than regular bilingual instruction; bilingual education may be enhanced by incorporating direct instruction into its teaching method. "School characteristics" may interact with the effects of any specific teaching method. (AN)

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Teaching Reading to Disadvantaged Hispanic Children Based on Direct Instruction

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Abstract

The present study intended to study the effects of direct instruction in teaching bilingual Hispanic children to read. 117 first grade bilingual students were randomly selected from two school districts, one district with a high percent of disadvantaged students. Half of the students in each district were assigned to a regular bilingual classroom, and the other half were assigned to a bilingual classroom with direct instruction. The results showed that direct instruction was effective in the disadvantaged school district, but not in the other. Implications were suggested for teaching reading to disadvantaged Hispanic children based on direct instruction.

Teaching Reading to Disadvantaged Hispanic Children Based on Direct Instruction

Presently, there is a lack of curricular materials specifically designed for disadvantaged Hispanic children (Penn, 1979; Weffer, 1979). The bilingual curricula developed have not taken into consideration the needs of those bilingual children who also have learning difficulties. Many educators who are involved in teaching reading to bilingual students have become aware of this serious lack of suitable curricular materials that will enable them to deal effectively with children in primary grades where reading remediation is urgently needed.

Directed Instruction

In the 1960's, a directed approach in curricular design was developed by Engelmann and Bereiter to meet learning problems of disadvantaged populations in Illinois. This directed approach has since been named direct instruction. Direct instruction utilizes several effective learning principles. Some of these learning principles include modeling, reinforcement, prompting, discrimination learning, and correction/feedback for positive self concept development. Achievement gains in reading have been reported with the use of this direct instruction in the past nine years (Engelmann, 1979), particularly for low achievers and disadvantaged students (Engelmann, 1978; Carnine, 1979).

The present study was the first to utilize the direct instruction method to teach reading to disadvantaged Hispanic children. Specifically, this study was designed to test the effectiveness of direct instruction by comparing it with that of the regular bilingual method of teaching disadvantaged Hispanic

children to read. Marcoux (1961) noted that Hispanic children showed lower scholastic achievement than majority children, especially in the areas of reading during the primary grades. His study further suggested that Hispanic children needed a structured learning environment in the beginning primary grades in order to develop basic concepts for maximum academic functioning. According to Engelmann and Carnine (1979), some of the hardest concepts to teach in the areas of reading involve the teaching of pronunciation, and the identification and differentiation of vowels and consonants. A previous study by Engelmann (1978) indicated that learning retention tended to be low if learning materials were not presented in a structured way to match the child's retention level. All of the above-mentioned studies pointed to the importance of developing curricular materials based on direct instruction for teaching fundamental reading concepts to disadvantaged Hispanic children in beginning primary grades.

Direct Instruction Bilingual Curriculum

A set of curricular materials based on direct instruction was developed in 1980 by the author (Duran, 1980). This set of materials has equivalent English and Spanish versions and thus is suitable for bilingual instruction. Section I (Spanish) and 2 (English) of the materials deal with the teaching of vowels, and 3 (Spanish) and 4 (English) deal with the concepts of geometric shapes. In this curriculum, the dialogue between the teacher and students, the visual aids to be used, the proper timing of reinforcement, questioning, contrasts, and cuing in the instruction have all been specified and structured. With the aid of this set of materials, a teacher can be trained in about one regular semester to teach reading based on direct instruction. Teaching based on this curriculum is systematic and well structured. The present study, there-

fore, also served as a field test for the effectiveness and suitability of this set of curriculum materials in teaching reading to disadvantaged Hispanic first grade children.

This Study

In the Spring of 1980, two Southwestern school districts near the Mexican border were selected for the study. Both School A and School B were rural with high percentages of Chicano students, and both employed bilingual education programs. However, School B was located in a more affluent area whereas School A served a poor neighborhood with predominantly recent Mexican immigrants. The general socio-cultural composition made School A a disadvantaged district, whereas School B was not.

In School A, 58 first grade Hispanic bilingual students were randomly selected from the total pool of about 400 and randomly assigned to two experimental groups. The conditions for the two groups were identical except that in Group 1 direct instruction was employed, whereas in Group 2 the regular bilingual method was employed for teaching the same vowels and geometric shapes to those children. In School B, 58 students were similarly selected and assigned to the two experimental groups.

The experimental manipulation consisted of teaching reading for one hour per week for eight consecutive weeks in each school, using either the direct method or the regular bilingual method. Four graduate students, two trained in regular bilingual teaching and two in direct instruction, were randomly assigned as teachers in the respective experimental groups. The qualifications of these four students were very comparable in all other regards. The design employed here was Campbell and Stanley's (1963) Post-Test Only Control Group Design in which complete randomization was utilized rather than employing a

pre-test for assignment purpose. According to Campbell and Stanley, pre-testing may pose a threat to the external validity of a study through unexpected effects such as the interaction between pre-testing and treatment.

All the children in the study were tested at the end of the eight weeks on their reading mastery of vowels and recognition of geometric shapes in a test which was developed by the author. The test contained 36 items. The correct answer to each item was counted as one point. The total possible score on the test was 36. The socio-economic status of the children was determined by asking the children questions concerning their parents' education and employment status, and by obtaining similar information from the teachers.

Results of the Study

The mean score of all the children in the study was 28.36. The standard deviation was 9.64, and the range was between 3 to 36. Of all the children in the study, only two from School B came from upper-middle family background, whereas the majority of them came from either lower or middle socio-economic (SES) families. Therefore, only two SES classifications were used in the analysis: below or above middle class. A chi square test revealed that in School A, more children came from below middle SES families (95%) than from above middle SES families (5%), whereas in School B, more children came from above middle SES families (80%) than from below middle SES families (20%) ($\underline{X}^2$=58.61, $\underline{df}$=1, $p<0.01$). Those students who were from above middle SES families achieved higher ($\underline{X}$=33.19, $\underline{N}$=24) than those who were from below middle SES families ($\underline{X}$=25.24, $\underline{N}$=65) ($\underline{t}$=4.26, $\underline{df}$=105, $\underline{p}<0.01$).

A 2 by 2 analysis of variance was employed to compare the children's achievement in two experimental conditions and in two schools. The results re-

vealed a significant school effect (F=48.47, df=1, 106, p<0.001), a significant experimental group effect (F=12.90, df=1, 106, p<0.01) and a significant interaction effect between groups and schools (F=4.70, df=1, 106, p<0.05). School B had significantly higher achievement ($\bar{X}$=33.79) than School A ($\bar{X}$=23.77). Those students who were in direct instruction group achieved significantly higher ($\bar{X}$=30.56) than those students who were in bilingual group ($\bar{X}$=26.03). The interaction between schools and groups indicated that direct method group achieved significantly higher ($\bar{X}$=27.50) than bilingual group ($\bar{X}$=17.00) in School A only, whereas direct instruction group ($\bar{X}$=34.00) did not differ from bilingual group ($\bar{X}$=38.00) in School B. In order to shed light on the nature of the interaction between groups and schools, a similar 2 by 2 analysis of variance was performed to investigate if the school effect was confounded by their SES difference. This analysis based on two levels of SES and two experimental groups revealed the same significant SES and group effects as reported earlier, however, there was no significant interaction between SES and groups (F=0.68, df=1, 106, p>0.05). The lack of interaction between SES and experimental groups indicated that the effects of two teaching methods were the same for students in both SES groups, and that they did not interact with SES status the same way as they interacted with the two schools.

Tentative Conclusions

Results of this investigation lead to the following tentative conclusions. First, instruction based on principles of direct instruction can improve beginning bilingual children's achievement significantly more than that of regular bilingual instruction. Bilingual education may be enhanced by incorporating direct instruction into its teaching method. The positive effects of direct instruction apply to children from lower as well as from middle SES family

backgrounds.

Secondly, curricular materials can be developed to teach reading to disadvantaged Hispanic children based on direct instruction. Such curricular development will enable many bilingual teachers to deal effectively with Hispanic children in reading and other needed areas. Reading teachers who work with disadvantaged Hispanic children may readily adopt the direct instruction method by utilizing such curricular materials.

Furthermore, the study also pointed out the importance of "school characteristics" which may interact with the effects of any specific teaching method. It was most interesting to note that direct instruction was not any more effective than bilingual instruction with children in School B, but was more effective in School A which was "disadvantaged". Since SES per se did not interact with the effects of the teaching methods, and school districts did, one is reminded that school characteristics are made up of many factors and that SES is only one small element among many which relate to the "disadvantageousness" of a school. Those who were involved in this study were struck by the drastic differences that prevailed in these two selected schools. The teachers and administrators in School B were eager for inputs and new teaching strategies, whereas in School A, there seemed to be a strong defensive reaction and a great resentment toward the intrusion of the experimenters. In School B, the general atmosphere was one of genuine concern for the learning of the students, whereas in School A, the atmosphere could be described as indifferent at best. The students in School A were achieving far below their grade level and appeared to be apathetic toward learning at the beginning of the experiment. However, soon afterwards, it became obvious that direct instruction was able to motivate this same group of students, attract and hold their attention much better than the

regular bilingual instruction. Such drastic change resulting from the study was not observed in School B. Perhaps the disadvantaged students in School A had not been taught how to learn, how to pay attention and to become motivated. Direct instruction, with its structured teaching strategies, seemed to be able to help those disadvantaged beginning students more so than students who have already developed learning and attending skills (Brophy, 1979).

Implications for Education

1. More bilingual curricular materials should be developed based on direct instruction for subjects dealing with basic concepts and skills taught in beginning primary grades. Workshops and inservice training can be conducted in regions with bilingual emphasis in order to introduce the curricular materials to teachers and administrators who deal with disadvantaged bilingual students.

2. A major emphasis of direct instruction is the proper matching of students' levels and the difficulty of the curricular materials. Pre-assessment of the pupils' reading levels, and diagnosis of their reading difficulties, may be paramount to successful development and selection of suitable teaching material based on direct instruction.

3. Direct instruction has unlimited potential for teaching a variety of basic subjects to beginning learners from disadvantaged populations. Those subjects for which learning depends upon repetition and memory, such as math and reading, are the most suitable subjects for benefitting from the teaching strategies of direct instruction.

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Footnote

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